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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/026,547	12/24/2001	David G. Hostetter	2001-087-ICE	9585

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EXAMINER

ALI, SYED J

ART UNIT PAPER NUMBER

2195

DATE MAILED: 06/20/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/026,547

Applicant(s)

HOSTETTER ET AL.

Examiner

Syed J. Ali

Art Unit

2195

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 December 2001.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-42 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-42 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 March 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 17 Feb 2004.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1-42 are pending in this application.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. **Claims 1-7, 10-21, 24-31, 33-35, and 38-42 are rejected under 35 U.S.C. 102(e) as being anticipated by Sicola et al. (USPN 6,601,187) (hereinafter Sicola).**

4. As per claim 1, Sicola teaches the invention as claimed, including a method for synchronizing transactions, comprising:

executing a series of commands at a first computing entity (col. 12 lines 17-25); and

relaying the series of commands to a second computing entity (col. 12 lines 47-56) such that the second computing entity lags behind the first computing entity by an amount of lag that is no greater than a specified synchronicity setting (col. 11 lines 17-19).

5. As per claims 2-3 and 10-11, Sicola teaches the invention as claimed, including the method of claim 1, wherein the first and second computing entities are computer peripherals, i.e. storage systems (col. 6 line 62 - col. 7 line 10).

6. As per claims 4 and 12, Sicola teaches the invention as claimed, including the method of claim 1, wherein the first and second computing entities are computers (col. 8 lines 50-62).

7. As per claims 5 and 13, Sicola teaches the invention as claimed, including the method of claim 1, wherein the first and second computing entities are computer programs (col. 8 lines 50-62).

8. As per claim 6, Sicola teaches the invention as claimed, including the method of claim 1, wherein the amount of lag and the specified synchronicity setting are measured as numbers of commands executed (col. 11 lines 17-19).

9. As per claim 7, Sicola teaches the invention as claimed, including the method of claim 1, wherein the amount of lag and the specified synchronicity setting are measured as amounts of time (col. 9 lines 54-61).

10. As per claim 14, Sicola teaches the invention as claimed, including the method of claim 1, wherein the series of commands is for a peer-to-peer remote copy operation (col. 9 lines 9-19).

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11. As per claims 15-21 and 24-28, Sicola teaches the invention as claimed, including a computer program product in a computer-readable medium comprising functional descriptive data that, when executed by a computer, enables the computer to perform the method of claims 1-7 and 10-14, respectively (col. 6 line 62 - col. 7 line 10; col. 8 lines 50-62).

12. As per claim 29, Sicola teaches the invention as claimed, including a computer program product in a computer-readable medium comprising functional descriptive data that, when executed by a computer, enables the computer to perform acts including:

copying extents of data from a host to a first storage system pursuant to instructions from the host (col. 12 lines 17-25);

relaying the instructions to a second storage system (col. 12 lines 47-56) such that the second storage system lags behind the first storage system in copying the extents of data by an amount of lag that is no greater than a specified synchronicity setting (col. 9 lines 54-61).

13. As per claim 30, Sicola teaches the invention as claimed, including the computer program product of claim 29, wherein the amount of lag and the specified synchronicity setting are measured as numbers of instructions executed (col. 9 lines 54-61).

14. As per claim 31, Sicola teaches the invention as claimed, including the computer program product of claim 29, wherein the amount of lag and the specified synchronicity setting are measured as amounts of time (col. 9 lines 54-61).

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15. As per claims 33, 34-35, and 38-42, Sicola teaches the invention as claimed, including a data processing system, comprising:

a processing unit including at least one processor (col. 6 line 62 - col. 7 line 10; col. 8 lines 50-62);

memory (col. 6 line 62 - col. 7 line 10; col. 8 lines 50-62); and

a set of instructions within the memory, wherein the processing unit executes the set of instructions to perform the method of claims 1, 6-7, and 10-14, respectively (col. 6 line 62 - col. 7 line 10; col. 8 lines 50-62).

Claim Rejections - 35 USC § 103

16. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

17. **Claims 8-9, 22-23, 32, and 36-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sicola.**

18. As per claims 8-9 and 32, Sicola does not specifically teach the invention as claimed, wherein the amount of lag and the specified synchronicity setting are measured as amounts of data or as numbers of devices with outstanding commands to execute.

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19. "Official Notice" is taken that there are a multitude of well-known ways of specifying lag or delays, including the use of buffers (an amount of data is collected before transmission) or acknowledgments (a device sends an indication of completion to the issuing device). It would have been obvious to one of ordinary skill in the art to look to other methods of synchronization to ensure that all data is properly recorded.

20. As per claims 22-23, Sicola teaches the invention as claimed, including a computer program product in a computer-readable medium comprising functional descriptive data that, when executed by a computer, enables the computer to perform the method of claims 8-9, respectively (col. 6 line 62 - col. 7 line 10; col. 8 lines 50-62).

21. As per claims 36-37, Sicola teaches the invention as claimed, including a data processing system, comprising:

 a processing unit including at least one processor (col. 6 line 62 - col. 7 line 10; col. 8 lines 50-62);

 memory (col. 6 line 62 - col. 7 line 10; col. 8 lines 50-62); and

 a set of instructions within the memory, wherein the processing unit executes the set of instructions to perform the method of claims 8-9, respectively (col. 6 line 62 - col. 7 line 10; col. 8 lines 50-62).

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Conclusion

22. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Syed J. Ali whose telephone number is (571) 272-3769. The examiner can normally be reached on Mon-Fri 8-5:30, 2nd Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Meng-Ai T. An can be reached on (571) 272-3756. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Syed Ali
June 14, 2005



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